28. (Amended) The method according to [one of the preceding claims] claim 1, wherein Gabor filter functions and/or Mallat filter functions are used as class of filter functions for convolution with the colour-segmented reference image data and image data, respectively.

29. (Amended) The method according to [one of the preceding claims] claim 1, wherein the projection of the net-like structure of the specific reference graph and/or the specific reference bunch graph comprises centering the reference graph and/or the specific reference bunch graph in the image.

31. (Amended) The method according to claim [29 or] 30, wherein the projection of the net-like structure of the specific reference graph and/or of the specific reference bunch graph comprises scaling the centered reference graph and the centered reference bunch graph, respectively.

32. (Amended) The method according to claim 31 [in combination with claim 30], wherein the displacement and the scaling and the rotation of the centered reference graph and of the centered reference bunch graph, respectively, are carried out simultaneously.

33. (Amended) The method according to [one of the claims 29 to 32] claim 29, wherein the projection of the net-like structure comprises local distortions of the centered reference graph.

35. (Amended) The method according to [one of the claims 30 to 34] claim 30, wherein the displacement and/or the scaling and/or the rotation are determined on the basis of a comparison between the image graph and the corresponding reference graph and/or the corresponding reference bunch graph.

REMARKS

The claims are amended to eliminate multiple dependencies. Please enter these claim amendments prior to calculating the filing fee. Examination of the amended application is respectfully requested.

Respectfully submitted,

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Date

Thomas M. Champagne
(Registration No. 36,478)
RABIN & CHAMPAGNE, P.C.
CUSTOMER NO. **23995**
Telephone: (202) 659-1915
Telefax: (202) 659-1898

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METHOD FOR RECOGNIZING OBJECTS IN DIGITIZED IMAGES

Field of the Invention

The present invention relates to a method for automatically recognizing one or a plurality of structures and/or one or a plurality of objects in digitized image data.

Prior art

Methods for automatically recognizing an object in digitized image data are known in the prior art.

DE 44 06 020, for example, discloses a face recognition method. According to this method so-called jets are extracted from a digitized image with Gabor filters of different magnitudes and orientations, said jets being arranged at the nodes of a grid which is adapted to be subjected to displacement, scaling and deformation. This graph , i.e. the structure of the grid and the jets associated with the nodes of the grid, are compared with a reference graph comprising the structure to be recognized. For this purpose, the optimum form of the grid is determined by a two-phase optimization of a graph comparison function. In the first phase, the size and the position of the graph are optimized simultaneously; in the second phase, the intrinsic form of the graph is optimized.

It has, however, turned out that a successful recognition of a structure or of an object by means of this method depends to a very high extent on the quality – especially on the nature of the background – of the image data comprising the structure to be recognized. It is true that this method is suitable for achieving good results, when the structure and the object have been recorded in front of a neutral background, but in cases of use where it is not possible to record the image data in front of a neutral background, problems may arise in the case of the known method; these problems may, in the final analysis, result in an unsatisfactory recognition of structures and objects.

In the field of face recognition a further method is known in the case of which the comparison between the image of a head recorded with a video camera and a plurality of images of